

MAP-Maker; A Computer Program to Create and Explore Clinical Decision Making

Jay Downey, M.D. and David R. Pepper, M.S. M.D.
Department of Family and Community Medicine
University of California San Francisco at Fresno
Fresno, California

INTRODUCTION

The construction of Medical MAP's (Multistep Algorithmic Protocols) affords unique opportunities for approaching clinical problems. The addition of this information into a computer framework further amplifies learning and discussion while exposing individuals to a computer program that allows exploration of the data in new ways.

"MAP Maker" is a Hypercard computer program designed to aid this interaction with the data. Exploration of a decision making process via interactive point-click technology brings decision making closer and more available to clinicians and teachers. In addition to "Search" and "Find..." menus, this program supports "One Step at a Time" exploration of step specific information and "Decision List" menu's to examine the sequential steps in a particular MAP. Generation of new MAP's is possible and printed copies of existing MAP's is supported.

This computer program allows construction of a series of linked sequential steps, mimicking components of a physicians' approach to clinical problems. By placing this information in an electronic visual format, the knowledge can be used in many more ways and by many more people including Mid-level providers and medical students.

This program differs from many other "decision-making" programs because it allows modification of existing Multi-Step Algorithmic Protocols (MAP's) and generation of new Medical MAP's by the user. The program allows the medical practitioner to generate their own multi-step approach to a given symptom or diagnosis and may also foment the development of these protocols.

DEVELOPMENT

The hypercard stacks was developed over the last three years. It was based on an interest in the decision-making process and a curriculum in computers in medicine. It combined a resident skills in programming with a faculty interest in decision making. It is written in hypercard.

Family Practice Residents have been involved in the construction of MAP's in graphic format. These are being transferred to the MAP Maker hypercard stacks and made available for use in teaching and as guides for clinical decision-making discussions. Currently, MAP's have been developed in over 100 subjects.

ATTENDEE INVOLVEMENT

Participants in the electronic poster session will be encouraged to explore the program and the MAP's it contains. Given a main menu which provides easy access to all of the Medical MAP's, the point and click method of exploration is readily apparent. By selecting on any given end point (outcome), the steps necessary to reach this will be automatically highlighted by the computer program.

The program also supports background layers to augment decision making. It can be searched by the attendees to uncover references and discussions to support a particular decision. With the assistance of the program developers or the help menu, the next phase of the program can be explored - namely the construction of a MAP. Using the program (and the presenters' assistance) development of a new MAP can be accomplished, focused at the participant's particular area of interest. Beginning with a paper based MAP the information can be transferred to electronically linked nodes within the program.